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PHOTOGRAPHIC INTERPRETATION REPORT



ABU ZABAL EXPLOSIVES
PLANT NO 18

ABU ZABAL, EGYPT

AUGUST 1965

COPY

12 PAGES

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GROUP 1 EXCLUDED FROM
AUTOMATIC DOWNGRADING
AND DECLASSIFICATION

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PHOTOGRAPHIC INTERPRETATION REPORT

ABU ZABAL EXPLOSIVES PLANT NO 18
ABU ZABAL, EGYPT

AUGUST, 1965

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

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SUMMARY

Abu Zabal Explosives Plant No 18 near Abu Zabal, Egypt, is a large modern high-explosives (HE) plant which probably also produces double-base propellants, small-arms ammunition, and other munitions such as land mines, grenades, shells, and bombs. Nitric acid is probably produced in the southern part of the plant, and the extent of the chemical processing facilities in this area of the plant suggests at least a capability for the production of chemical warfare (CW) agents. Whether or not CW agents are manufactured at Plant 18, it is possible that CW munitions are assembled and filled there. The reported production of anesthetics and small

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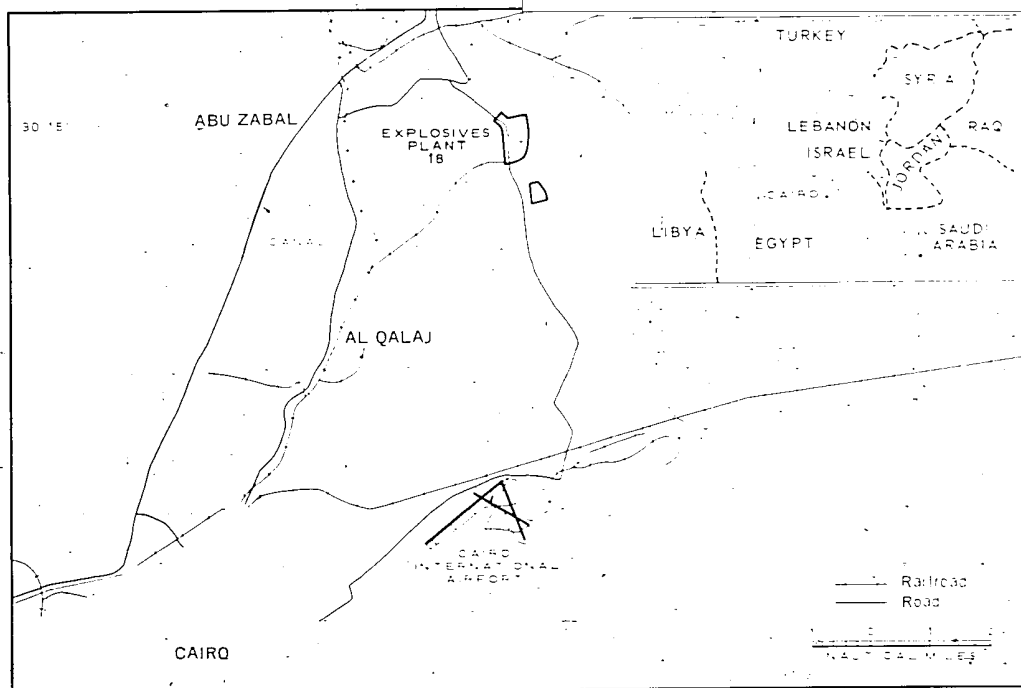


FIGURE 1. LOCATION MAP.

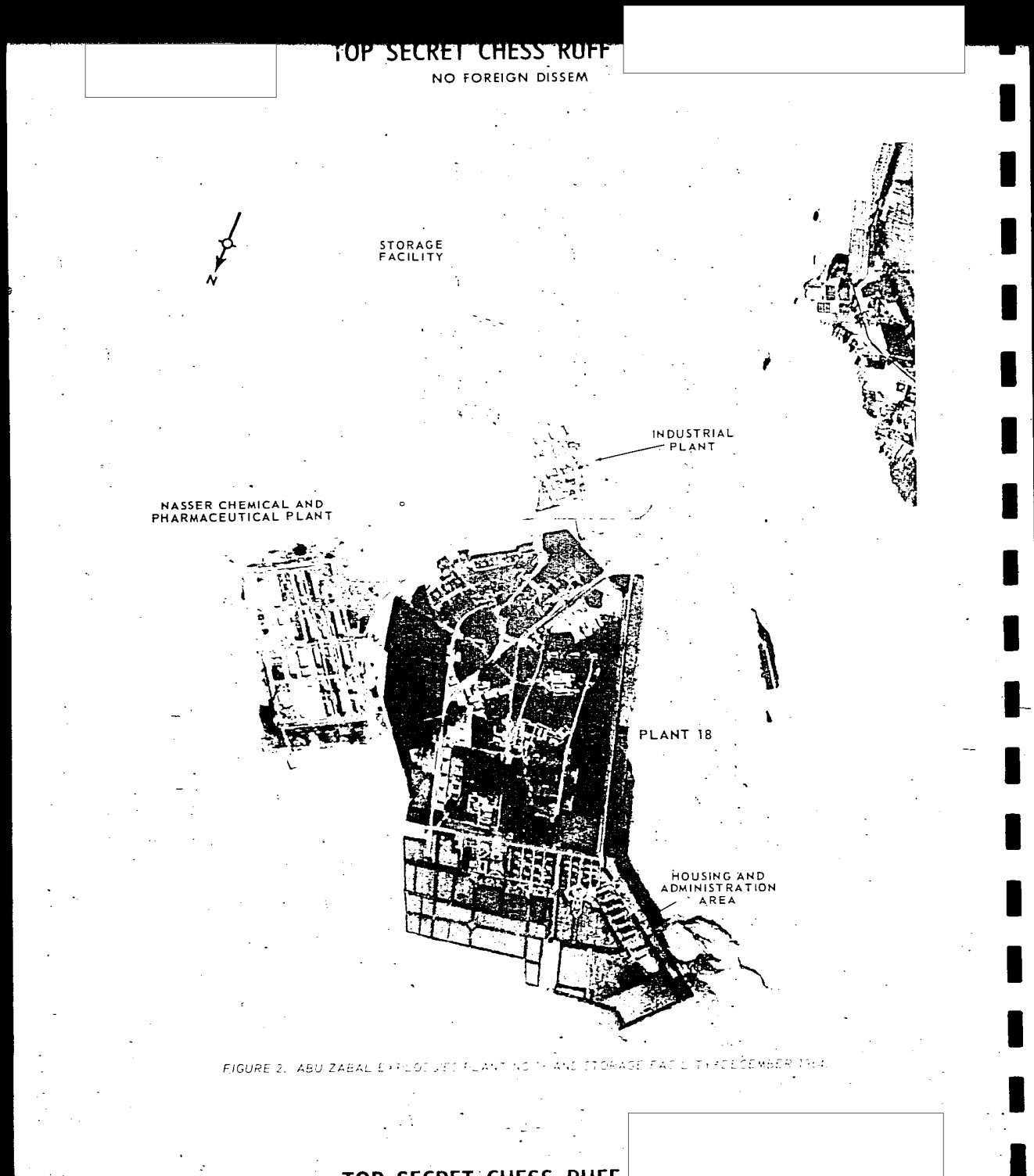
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proximately 3 nautical miles (nm) east of Abu Zabal, Egypt, at 30-14N 31-24E (Figure 1). Plant 18 has also been known as Military Factory No 18 and as Abu Zabal Military and Civil Chemicals Company. 1/

The processing/production facilities and associated operations occupy a walled area of about 250 acres; additional security measures along the wall include 11 guardhouses or towers and guard posts at points of access. Plant 18 is served by a blacktop road and a rail spur. A housing and administration area is north of the wall, and a separately secured storage facility is located approximately 3,000 feet south of the plant area (Figure 2). The Nasser Chemical and Pharmaceutical Plant is adjacent to Plant 18 on the east, and a small industrial plant is under construction immediately to the south; the small plant may be associated with the chemical and pharmaceutical plant.

When first observed in February 1954, Plant 18 was in an early stage of construction. By May 1957 most of the housing and administration facilities were present, and construction had begun on a majority of the plant facilities. Most of the structures under construction in 1957 were completed by October 1959, and the plant may have been operational to some extent. Photography suitable for detailed analysis was not obtained during the period 1960-1963. The nonsystem photography of 1964 (Figure 3) which forms the basis of this report indicated that construction had continued between 1959 and 1964; in August 1964 at least 1 structure had not yet been completed. Color coding on the line drawing of the layout of the plant (Figure 4) indicates those items added since October 1959.

1/ Photographic evidence indicates that all except the last 2 items are prob-

ably manufactured at Plant 18, but the production of anesthetics and small arms can be neither confirmed nor negated.

The photograph clearly reveals a significant number of chemical processing facilities in the southern part of the plant area, one or more of which could

DESCRIPTION OF PLANT

For convenience of description, Plant 18 has been arbitrarily divided into 5 areas (Figure 4); wherever possible a functional basis was used in determining area boundaries. Flow lines, however, are not always apparent, and some individual processes may involve more than one area. Dimensions of selected structures in Plant 18 are presented in Table 1 which is keyed to Figure 4.

AREA A

Area A contains nitrating facilities, a steamplant, a probable nitric acid plant, and possible munitions-loading facilities.

The nitrating facilities for HE (possibly TNT) and for probable nitroglycerine production extend along the southern margin of Area A. Three identical heavily revetted structures (item 3) form the central part of the probable nitroglycerine production facility. A large vertical tank in a roofless building west of the northernmost of these 3 structures may be a glycerine storage tank. The row of 7 revetted structures (items 1 and 2) is probably a nitrating facility for the production of HE, possibly TNT, but these 7 structures could also be munitions-loading facilities.

The steamplant (item 15) is located in the northern corner of Area A, and 3 large above-ground oil tanks are just

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south of it. A fourth tank in this group, approximately 20 feet in diameter, appears to be partially buried and may be used to store toluene. A group of facilities between the 4 tanks and item 2 is probably used for fume recovery and acid fortification; these facilities may serve both the HE and the probable nitroglycerine production facilities.

Two groups of processing structures are located southwest of the steamplant. The line of buildings nearest the rail spur is probably a nitric acid plant using ammonia for the basic raw material. The other line of buildings, which includes items 6 and 7 and 2 revetments, is a chemical processing facility; 1 of the revetments contains 2 vertical tanks topped by short stacks and the other revetment contains a large building

(item 8). These facilities are linked by an overhead pipeline which may be connected to the adjacent acid plant. The presence of revetted structures in this line of buildings suggests that nitrating for explosives manufacture or possibly munitions loading would be the function of this group. A possible laboratory (item 5) is located between items 6 and 2.

AREA B

Two groups of processing production facilities, the products of which are unknown, are located in Area B. One group includes items 10 and 11 and, between them, a heat processing facility with a tall stack and 2 vertical aboveground tanks. Item 11 is a large multi-story building with 2 longitudinal monitors at different levels and a

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FIGURE 3. PLANT 18, AUGUST 1964

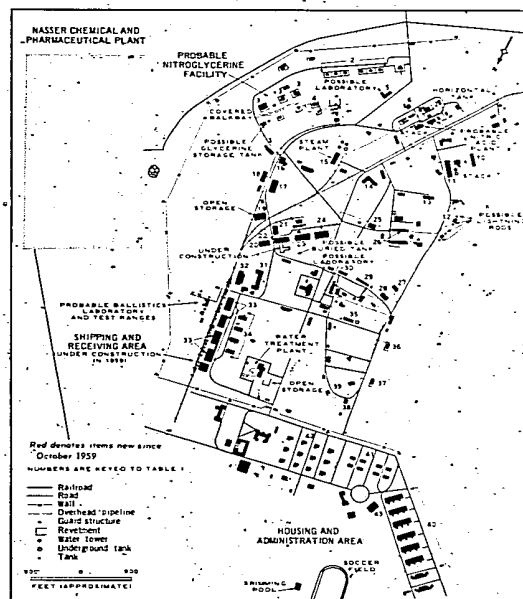


FIGURE 4. LAYOUT OF PLANT 18

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[redacted]

narrow high-bay section at least 4 stories high. An overhead steam pipeline enters the east end of item 11, and this building is also connected by overhead pipeline to the heat processing facility. A laboratory-type building is located just east of item 11. Within the vicinity of this group of buildings are a number of other miscellaneous buildings, including 4 scattered identical small structures with rectangular openings in their roofs; these openings appear to be the upper ends of vertical shafts. The area around items 10 and 11 also includes large quantities of materials, possibly drums, crates, and small tanks.

[redacted]

A second processing/production line is located in the northern part of Area B; the major components of this line are items 12 (3 buildings), 25, and 26 (2 buildings), all of which are connected by an overhead steam pipeline. Other structures in the vicinity include a square building with a high section just southwest of item 26, an L-shaped structure (item 14) with a tank protruding from one end, and about 6 miscellaneous rectangular buildings. The 3 buildings labeled item 12 are unusual in that each has 3 tall pole-like objects associated with it, 1 at each end and a third between the 2 bays projecting from the east side. These objects may be lightning rods; if so, this would indicate that the buildings may house munitions-loading functions, or possibly production facilities for the manufacture of some form of anesthetics.

A water tower or standpipe is located southeast of item 13, near the southern border of this area.

AREA C

Area C contains at least 2 probably inter-related processing/production lines. The group of structures grouped around item 23 appears to

be the originating point for processing taking place in this area. A probable transfer point for liquids is located adjacent to the short rail spur which ends about 200 feet south of item 23. Overhead pipelines apparently carry liquids (possibly acids) from tank cars to or through the 3 buildings between the spur and item 23 and into this latter building which has a high section at the southern end and some exposed chemical processing equipment at its southeast corner. Item 23 and the other buildings in this group may constitute a nitrocellulose production facility.

Item 22, additions to which were under construction in August 1964, is an irregular building which is the end of a branch of the overhead steam pipeline system that connects the processing buildings in Area C and in other areas.

Items 27 through 30 and 35 through 39, including the miscellaneous structures associated with them, appear to be a second processing/production line. Most of these structures, including the 2 revetted buildings (items 36 and 37), are connected to an overhead steam pipeline. This group of buildings may be a double-base (possibly single-base) propellants production facility.

A T-shaped possible laboratory or engineering-type building is located between the possible nitrocellulose and propellants production facilities. Items 16 through 19 and the rectangular structures adjacent to them are apparently storage or service buildings. A large water tower or standpipe is located in the southeast corner of Area C, near the perimeter wall.

AREA D

Area D contains receiving, shipping, and water treatment facilities and a probable ballistics laboratory and test ranges.

The receiving and shipping facilities consist of 5 warehouse-type structures (item 33 and the building immediately to the north) arranged in a row along a 3-track railroad yard. Sizable

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amounts of material are visible between these buildings. The 4 buildings (item 34) immediately west of the receiving/shipping structures may be used for packing and temporary storage, or for the initial processing of cotton linters used in the manufacture of nitrocellulose. A water treatment plant is situated in the northwest corner of Area D, and large quantities of material in open storage are visible west of this plant.

A probable ballistics laboratory and test ranges are located east of the railroad yards; this group of structures has been expanded since 1959. The presence of this facility could indicate that finished small-arms ammunition is produced and tested at Plant 18. However, this test facility could also be used for quality-control procedures in propellant manufacture.

Items 31 and 32 and the buildings immediately north of them, all nominally located in Area C, may be functionally related to the shipping, receiving, and processing operations ascribed to items 33 and 34.

AREA E

Area E, north of the perimeter wall, is a large and fairly elaborate housing and administration area. Housing facilities consist of 30 multistory apartment buildings (items 40, 41, and 42 and adjacent structures). Three large irregular structures near the main entrance to Plant 18 are administration buildings. Two other large buildings and a third under construction, all in the western part of Area E, may house additional administration offices or recreational

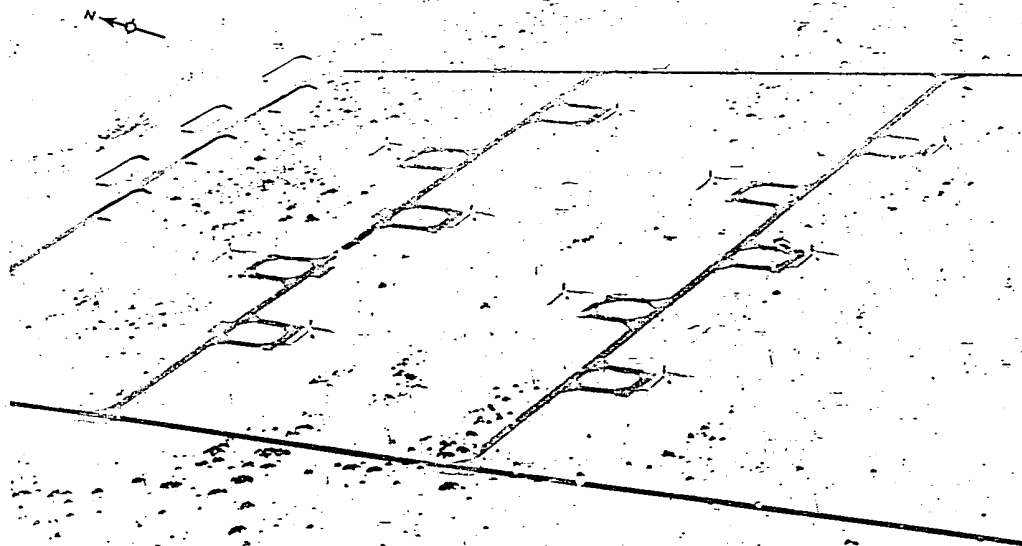


FIGURE 5. NORTH SECTION OF STORAGE FACILITY, JANUARY 1964.

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facilities. The area also contains several miscellaneous buildings, a soccer field, and a swimming pool.

DESCRIPTION OF STORAGE FACILITY

The explosives/munitions storage facility is located about 0.5 nm south of Plant 18 and is connected to it by a paved road which bypasses the small intervening industrial plant. The storage facility (Figures 5, 6, and 7) consists of a wire-fenced area of about 110 acres containing 25 storage structures of 4 distinct types; dimensions of these structures are presented in Table 2. A pair of gatehouses is located at the single entrance to the facility, and 6 guardhouses are situated at regular intervals along the fence.

Three of the storage structures (item 1) are earth-covered igloos with a large earth mound facing the 3 entrances. West of the igloos are 6 heavily revetted conventional ammunition or explosives storage buildings (item 2) with poorly camouflaged roofs. Ten structures are partially buried, earth-covered rectangular buildings (item 3); each of these buildings has 2 large ventilator stacks extending above the

Table 2. Structures in Storage Facility
(Item numbers appear on Figure 7)

Item	Description
1	Earth-covered igloos (3)
2	Revetted bldgs (6)
3	Earth-covered ventilated bldgs (10)
4	Sheds (6)

*Dimensions of earth-covered structures are estimated.

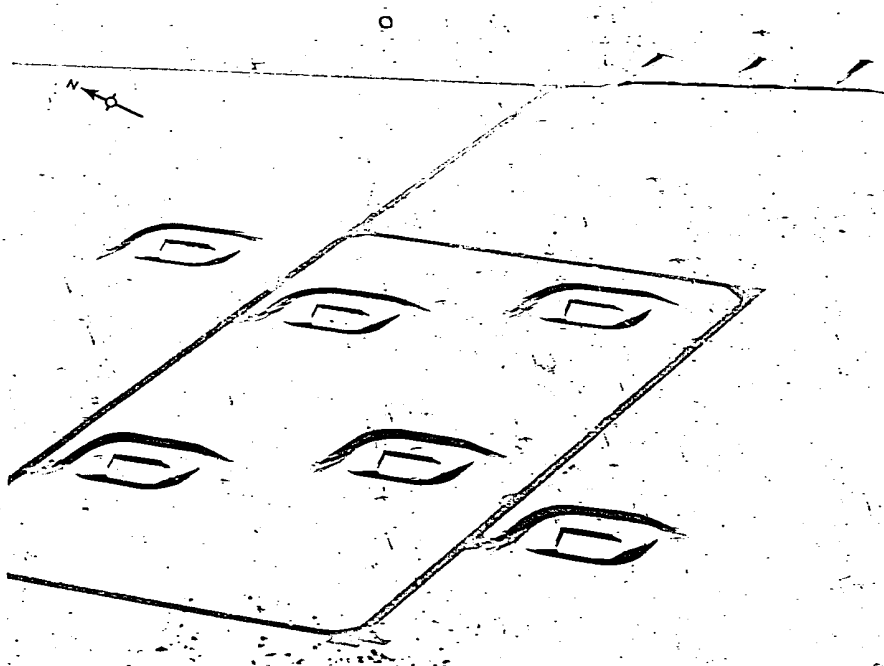


FIGURE 6. SOUTH SECTION OF STORAGE FACILITY, JANUARY 1964.

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roof and 2 entrances below ground level. At the north end of the storage facility are 6 sheds (item 4), the side walls of which do not meet

the roofs. Blacktop roads provide access to all the storage structures, with loop turnarounds at the 10 earth-covered buildings.

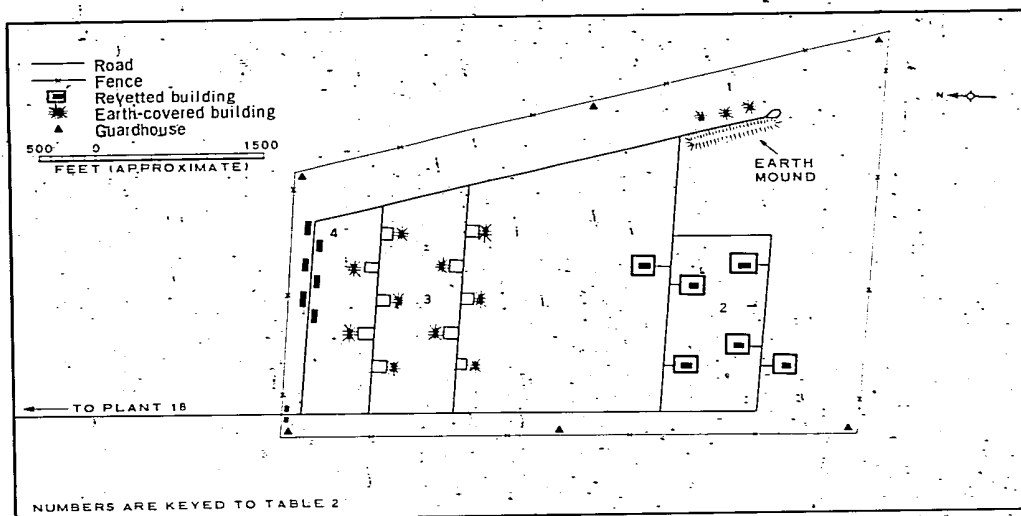


FIGURE 7. LAYOUT OF STORAGE FACILITY.

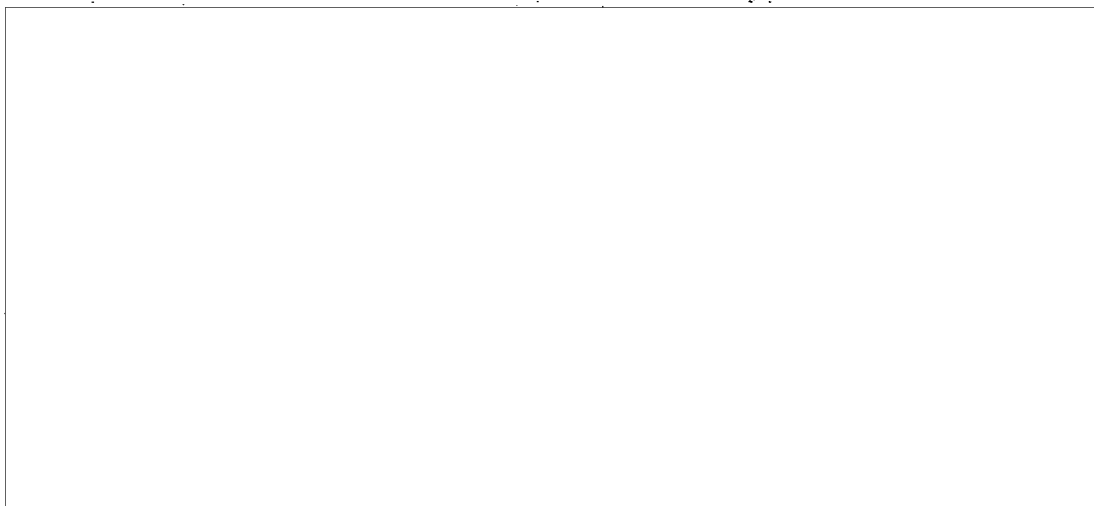
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REFERENCES





MAPS OR CHARTS

SAC: US Air Target Chart, Series 200, Sheet 0447-12HL, 1st ed, May 62, scale 1:200,000 (SECRET)

DOCUMENTS



RELATED DOCUMENT

NPIC  *Nasser Chemical and Pharmaceutical Plant, 1 mi. Zabal, Egypt, Aug 65* (TOP SECRET
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REQUIREMENT

SIC, BCW-Task Force, TF-29 (SIC 21-4)

NPIC PROJECT

12034 64 (partial answer)

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